

## **610 TURF ESTABLISHMENT**

### **610.01 SEED AND SEEDING WITH 4 INCH TOPSOIL**

(A) **DESCRIPTION.** Work consists of preparing seed beds, furnishing, hauling, and placing four inches of lightly compacted topsoil, furnishing and placing of all seed, lime, fertilizer, mulch, including maintenance until contract completion date, disposal of excess and unsuitable materials, and all necessary operations incidental to the proper grassing of areas as shown on the plans and as directed by the Engineer, in accordance with these specifications.

The Contractor shall perform all fertilizing, seeding, raking, and mulching operations only at a time when local weather and other conditions affecting such work are normal and favorable to the proper prosecution of the particular work within the dates specified, or within an extended period of time approved by the Engineer. No work of this kind shall be done when the temperature is 32°F or lower. Seeding shall not be done during windy weather, nor when the ground is excessively wet, frozen or otherwise untillable.

In the event the time consumed for planting, fertilizing, seeding, raking, and mulching within the specified planting season or approved period extends beyond the general contract period, the liquidated damage clause will not be enforced with respect to this portion of the work.

#### **(B) MATERIALS.**

(1) **SEED.** Seed shall be of the mixture listed in Table 822.03. Seed sown during the periods from August 15 to October 31 and from March 1 to April 30 shall be either mixture No. 1, mixture No. 2, or mixture No. 3 as specified for in the Special Provisions. Seeding at other than the above dates will be allowed upon written approval of the Engineer.

Lespedeza seed shall be sufficiently and properly inoculated before being sown. The inoculation media shall be adaptable "Culture" of live nitrogen fixing bacteria. Only dated material is acceptable and is to be used during the date period specified.

Inoculant shall be a pure bred culture of nitrogen-fixing bacteria selected for maximum vitality and for the ability to transform nitrogen from the air into soluble nitrates for absorption into the soil. Inoculant shall not be used later than the date shown on the container. Suitable storage at a moderate temperature shall be provided at all times prior to usage to preserve maximum culture viability.

All seed shall be from latest available crop, with a test date not more than 9 months prior to date of sowing.

Seed shall be furnished separately or in mixes as required in standard sealed containers. All seed shall be labeled, tagged, or marked per accepted horticultural practice and shall comply with all current state and federal regulations. Seed and mixes shall be furnished with a certification from the seed company stating type of seed, percentages of mixture, purity, germination, and weed seed. Legume seed shall be inoculated with an approved inoculant.

(2) **TOPSOIL.** Topsoil shall meet the requirements of 822.01.

(3) **FERTILIZER.** Fertilizer shall be furnished in new, clean, sealed, and properly labeled bags and shall meet the requirements of 822.02(A).

(4) **LIME.** Lime shall meet the requirements of 821.03(B).

**(5) MULCH.** Material used for mulching in seeding areas shall meet the requirements of 822.04(A).

**(6) ASPHALT BINDER.** Asphalt material for securing mulch shall be an emulsified asphalt conforming to the requirements of AASHTO M 140, Type SS-1.

**(C) CONSTRUCTION REQUIREMENTS.**

**(1) PREPARATION OF SEED BED.** The Contractor shall first clear the seeding areas of all stones, clods, and debris. The preparation of the seed bed shall include, under this item, the removal of or the merging into the adjacent area any subsoil material existing back of the roadway curbing so as to permit placement of the required 4 inches of topsoil in the seeding areas. The seeding areas shall be boarded or bladed, as necessary, to eliminate any irregularities and to establish a uniform subsurface prior to placing topsoil. All areas shall be left in a drainable condition, free of pockets or depressions. The Contractor shall harrow, disk, or otherwise loosen the subsoil to a depth of 4 inches. Cultivation of slopes steeper than 3 to 1 shall be confined to horizontal scarification to a depth of 2 inches.

Following the approved subgrade preparation, the Contractor shall spread evenly over the grass area 4 inches of topsoil, lightly compacted. After the topsoil has been spread, all stones, brush, roots, large clods, and other objectionable material shall be removed. Lime shall be applied at the rate of 3,000 pounds per acre. Fertilizer shall be applied at the rate of 1,000 pounds per acre. Lime and fertilizer shall then be thoroughly mixed to a depth of 4 inches. The area shall be scarified and raked until the surface is smooth, friable, and of uniform fine texture. All areas to be seeded shall meet required finish grade.

**(2) USE OF SEWAGE SLUDGE.** The use of sewage sludge will not be permitted.

**(3) MECHANICAL SEEDING.** Following the approved seed bed preparation the seed shall then be sown. Mixtures No. 1 and No. 2 shall be sown at the rate of 200 pounds per acre or 5 pounds per 1,000 square feet. The seed shall be evenly distributed, preferably with wheelbarrow seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seed sowing equipment when seed and fertilizer are to be applied in dry form.

Fertilizer in dry form and ground limestone, if required, shall be spread separately at specified rates and incorporated in one operation to required depth on those areas indicated. Seeded areas shall be compacted within 24 hours after seeding has been completed.

Hand-operated seeding devices may be used when seed, fertilizer, and lime are applied in dry form. Generally, hand operated seeders shall be used only on areas which are inaccessible to mechanical seeders.

After the seed has been sown, it shall be covered to an average depth of 1/4 inch by means of a brush harrow, chain harrow, cultipacker, rake, or other approved device. Rolling of seed areas shall be done only as requested by the Engineer.

**(4) HYDROSEEDING.** Seed, fertilizer, limestone, and mulch material may be placed by the Hydroseed Method. The seed and fertilizer, or the seed, fertilizer, and suitable mulch shall be mixed in the needed amount of water to produce a slurry and then applied under pressure at the rate indicated on the plans or in the Special Provisions. Hydraulic equipment shall be approved prior to use. When approved, mulch may be applied during or after the seeding operation. When wood cellulose mulch is to be incorporated as an integral part of the slurry mix, it shall be added after the seed and fertilizer have been thoroughly mixed. Lime, when applied hydraulically, shall be a single, separate operation. Wood cellulose mulch shall be applied at the rate of 1,500 pounds per acre or 35 pounds per 1,000 square feet. Any area inadequately covered shall be re-treated as directed at no additional cost to the District.

Legume seed, if specified to be used in the seeding mix, shall be inoculated per instructions of inoculant

manufacturer. The inoculum used for hydraulic seeding shall be 10 times that recommended for dry seeding. When seeding, or reseeding, fertilizing, and mulching are applied in water, compaction or rolling will not be required.

**(5) SEED ESTABLISHMENT PERIOD.** The Contractor shall protect and care for seeded areas for at least 60 days after seeding is complete or until the end of the contract, whichever is the longer period. Grass shall be mowed whenever height reaches 6 inches to maintain a height of 4 inches. The Contractor shall repair any damage to seeded areas at Contractor's expense, and shall provide a uniform acceptable stand of grass.

**(6) MULCHING.** Within 48 hours after a given area is seeded, the area shall be mulched using an approved method for the particular area, satisfactory to the Engineer.

Mulch placed by hand shall be evenly distributed at the rate of 2 tons by weight per acre, care being taken that all areas are covered to a uniform depth of 2 inches loose material.

Straw and hay mulch material, as specified in 822.04(A), shall be satisfactorily secured by applying the asphalt emulsion binder, making a uniform tacky mat. It shall be applied uniformly at the rate of 0.10 gallon per square yard of mulch surface on slopes 3 to 1 or flatter areas and 0.15 gallon per square yard of mulch surface on slope or bank areas steeper than 3 to 1 and/or as directed by the Engineer.

Mulch may be blown on grass areas. The use of cutters in the equipment used for this purpose will be permitted to the extent that at least 95 percent of the mulch shall be 6 inches or more in length. When mulch is applied by the blowing method, the loose depth in place shall be no less than 2 inches and a uniform distribution and depth of mulch must be obtained.

Mulching by the "Asphalt Mix" method is also permitted. The mulch material shall be applied by blowing, and the asphalt binder material sprayed into the mulch as it leaves the blower. The binder shall be uniformly applied to the mulch at the proportion of approximately 1.7 gallons to 45 pounds of mulch or as required by the Engineer; with a minimum of 1.5 gallons and a maximum of 2 gallons to 45 pounds of mulch, depending on the type of mulch and the effectiveness of the binder in securing it.

All mulched surfaces shall be properly applied with asphalt binder material so that the surfaces will have a uniform appearance.

Bridges, pavements, curbs, walls, and drainage structures must be adequately protected to prevent any asphalt staining.

Mulching which may become displaced shall be immediately replaced and secured.

The Contractor shall take care to prevent asphalt binder from marking or defacing structures, pavements, utilities, or plant growth. Any disfigurement shall be repaired at the Contractor's expenses.

**(D) MEASURE AND PAYMENT.** The unit of measure for Seeding will be the square yard. The actual number of square yards of surface area seeded will be paid for at the contract unit price per square yard, which payment will include furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the work as specified herein.

## **610.02 CROWN VETCH HYDROSEEDING**

**(A) DESCRIPTION.** Work consists of hydroseeding the banks and slopes within the limits indicated in the contract documents or as directed by the Engineer. The hydroseed shall be a mixture of crownvetch seed with inoculant added, and grass seed.

Crownvetch hydroseeding shall include the preparation of the seed bed and the furnishing and placing all

lime, fertilizer, seed, inoculant, binder, and mulch, including all necessary operations to induce an acceptable stand of crownvetch cover.

**(B) MATERIAL**

Seed Mix No. 3 - per Table 822.03

Crownvetch Seed - 822.03(B)

Crownvetch Fertilizer - 822.02(B)

Lime for Crownvetch - 821.03(C)

Mulch - 822.04(B)

Inoculant-For treating leguminous seeds inoculant shall be a pure culture of nitrogen-fixing bacteria selected for maximum vitality and ability to transform air-borne nitrogen into soluble nitrates and deposit them in legumes. Crownvetch inoculants shall consist of pure-bred cultures of Rhizobia species of bacteria and shall not be used later than the date indicated on the container or specified.

Suitable storage in a moderate temperature shall be provided at all times prior to usage in order to preserve the culture. In temperature above 75°F, inoculant shall be transported in a suitable chest to maintain a cool temperature enroute to, and on the job. All cultures shall be subject to the Engineer's approval.

Companion seed (nurse grass)-For Spring and Fall seeding, mix into seeding mixture 60 pounds per acre of 50 percent perennial rye grass and 50 percent Kentucky 31 fescue. For summer seeding, add into this mix 4 pounds per acre of weeping love grass.

**(C) CONSTRUCTION REQUIREMENTS.** The hydroseed method shall be used on all slopes disturbed during construction. The disturbed areas shall be graded to within 4 inches of final grade and then backfilled with 4 inches of topsoil to finished grade.

Other areas designated by the Engineer to be hydroseeded but which are covered with weeds or grass shall have the vegetation mowed or cut down to ground level. All trees and stumps shall be removed, and all clippings and debris shall be cleared from the seedbed area. Prior to hydroseeding, the soil shall be handraked or mechanically scarified to a depth of at least 4 inches.

The mixture of crownvetch seed and companion nurse grass seed shall be sown at the rate of 100 pounds per acre or 2-1/2 pounds per 1,000 square feet. Fertilizer shall be applied at 500 pounds per acre or 12 pounds per 1,000 square feet. Lime shall be applied at the rate of 2,500 pounds per acre or 60 pounds per 1,000 square feet. The PH of the soil should be 6.5 and above. If the PH is below 6.5, additional lime should be added until this level is reached. Ureaform shall be applied at the rate of 400 pounds per acre or 9 pounds per 1,000 square feet. Inoculant shall be applied at 10 times the normal rate of application for dry seeding.

The ground limestone, fertilizer, seed and inoculant shall be combined and thoroughly mixed in a slurry tank and the specified binder then added to the mix.

The Contractor shall submit a schedule of equipment to be used which shall include type of tank, agitators, and capacity of tank, effective reach of sprayer and any additional information that may be required by the Engineer to assure proper application of seed.

The tank shall be equipped with high-speed agitators, shall be connected to a self-powered pump, and shall have a capacity of not less than 500 gallons. The sprayer shall be regulated and operated so as to dispense the slurry mix uniformly at the rate of application specified above. The effective reach of the sprayer used shall not be less than 65 feet.

If seeding is washed out before germination, the Contractor shall re-seed the area by hydroseed method

without additional cost to the District.

To prevent the sun and wind from killing the inoculating bacteria through exposure, specified mulch shall be applied hydraulically immediately after applying the slurry mix. The mulch shall be applied at 1,500 pounds per acre or 35 pounds per 1,000 square feet.

**(D) MEASURE AND PAYMENT.**

The unit of measure for Crownvetch Hydroseeding will be the square yard.

Payment will be made at the contract unit price per square yard, complete in place, and will include an acceptable stand of crownvetch (at least three healthy and flourishing crownvetch plants per square yard), including an acceptable stand of companion ryegrass, all labor, material, tools, equipment, and incidentals necessary to complete the work. Topsoil shall be paid for under a separate item.

**610.03 RENOVATING GRASS**

**(A) DESCRIPTION.** Work consists of removing all stones, trash, and debris, preparing seed bed, furnishing and placing fertilizer, lime, and seed, and all maintenance and necessary operations incidental to the proper grassing of areas as directed by the Engineer, and/or in accordance with the contract documents. The Contractor shall provide a uniform acceptable stand of grass as per Seed Establishment Period, 610.01(C)(5). Any unacceptable renovated grass areas shall be re-seeded at the Contractor's expense during the immediate seed sowing period.

**(B) MATERIAL.** All seed shall be from the last available crop. No seed shall be accepted with a date of test of more than 9 months prior to date of sowing. All seed shall be labeled, tagged, or marked in accordance with the best practice and according to law. Seeds of different types shall be furnished mixed, where required, with a statement from the seed company stating the percentages of mixture purity, germination, and maximum weed-seed content. Unless otherwise specified, Mixture No. 1 listed in Table 822.03 shall be used.

Seed mix for densely shaded areas will be 25 percent by weight Merion Kentucky Blue and 75 percent by weight Pennlawn Creeping Red Fescue.

**(C) CONSTRUCTION REQUIREMENTS.** The Contractor shall first clear the seeding area of all stones, trash and debris; the seeding areas shall be raked to a depth of approximately 1/2 inch.

Seed for densely shaded areas shall be sown at the rate of 3 pounds per 1,000 square feet.

Seed shall be spread evenly with a hand-push type, calibrated fertilizer spreader not to exceed 36 inches in width. After seed is in place and approved by the Engineer, the entire area shall be dragged lightly with a metal or bamboo fan rake.

The Contractor shall provide water as necessary to insure proper germination and a uniform stand of grass.

**(D) MEASURE AND PAYMENT.** The unit of measure for Renovating Grass shall be the square yard. The actual number of square yards of surface area renovated will be paid for at the contract unit price per square yard, which payment will include furnishing all labor, materials, tools, equipment, reseeding if necessary and incidentals necessary to complete the work.

**610.04 EROSION CONTROL MATTING**

**(A) DESCRIPTION.** Work consists of furnishing, placing, securing with wire staples, and maintaining an erosion control matting on seeded areas as indicated in plans and/or as directed.

**(B) MATERIALS.** All erosion control matting materials shall be made of new material, clean, sound, free of rips or tears, and furnished in lengths of at least 150 feet.

Burlap shall be of standard weave with a weight of 3.5 to 5.0 ounces per square yard.

Jute matting shall be of a uniform, plain weave with warp and wet yarns of about same size, with a width of 45 to 48 inches plus or minus 1 inch, with 78 warp ends per width and 41 wet ends per yard. Cloth shall weigh 1.80 to 1.22 pounds per running yard plus or minus 5 percent.

Woven paper or woven sisal mesh matting shall be woven from twisted yarns available in rolls 45 to 48 inches wide. Matting may vary from close to open weave, ranging from 1/8 to 1/4 inch opening. Shrinkage after wetting shall not exceed 20 percent of the surface area.

Matting anchor staples shall be made of No. 8 gauge steel wire, bent U-shaped with a throat width of 1 to 2 inches, and an effective driving depth not less than 6 inches.

**(C) CONSTRUCTION REQUIREMENTS.** Matting shall be placed within 24 hours after seeding operations have been completed. Matting shall be unrolled in the direction of drainage flow without stretching. Each strip of matting shall overlap the long edge of previous strip at least 4 inches. When joining ends of 2 strips, the up-channel end of lower strip shall be turned down and buried 6 inches deep in a trench. Bottom end of upper strip shall be lapped 12 inches over up-channel end of lower strip. The Engineer may require any other edge exposed to more than normal water flow be buried in a similar manner. Matting edges shall be similarly buried around the edges of catch basins and other structures.

Matting shall be in firm contact with the soil in its entirety. Matting shall be securely fastened in place with staples driven vertically into the soil and flush with the surface. Staples shall be placed at 4 foot intervals along the edges and center of the matting. On all overlapping edges, staples shall be placed 12 inches apart. At all ends of matting, staples shall be placed 12 inches apart.

Staples that become loose or raised, and matting that becomes loose, torn, or undermined shall be repaired promptly at Contractor expense. . When directed and as part of work, any portion of matting shall be rolled with a roller weighing not over 65 pounds per foot width of the roller.

Proper maintenance of matting shall be provided until either a satisfactory turf has developed or the project has been completed and accepted. Minimum care period shall be 60 days regardless of project completion date.

**(D) MEASURE AND PAYMENT.** The unit of measure for Erosion Control Matting will be the square yard in place. The number of square yards as measured in place will be paid for at contract unit price per square yard, which payment will include furnishing all labor, materials, tools, equipment and incidentals necessary to complete the work.

Measure of overlap will not be taken.

## **610.05 SOD AND SODDING WITH 3 INCH TOPSOIL**

**(A) DESCRIPTION.** Work consists of preparation of sod bed, liming, fertilizing, placing 3 inches of topsoil, if required, disposal of excess and unsuitable materials, and care of sodded areas per plans and as directed.

Sodding shall not be done during freezing weather, or when the ground is excessively wet, frozen, or otherwise unsuitable.

**(B) MATERIALS.**

Sod - 822.05

Topsoil - 822.01

Fertilizer - 822.02(A)

Lime - 821.03(B)

**(C) CONSTRUCTION REQUIREMENTS.**

**(1) SOIL PREPARATION.** Areas to be sodded shall be boarded or bladed as needed to eliminate irregularities resulting from soil erosion and to establish an even uniform grade as required. All areas to be sodded except those with slopes steeper than 3 to 1 shall be cultivated to a depth of 4 inches to provide a reasonably firm but friable sod bed. Cultivation on slopes steeper than 3 to 1 shall be confined to horizontal scarification to a depth of 2 inches.

Areas to be sodded shall be free of any plant growth, stones 2 inches in any dimension and larger or other debris. Lime and fertilizer shall be applied uniformly and incorporated into the ground to a depth of 4 inches on slopes 3 to 1 and flatter and 2 inches on slopes steeper than 3 to 1 either during or following sod bed preparation at the following rates:

Lime - 3,000 pounds per acre

Fertilizer - 1,000 pounds per acre

On slopes steeper than 3 to 1, lime and fertilizer shall not be tilled into ground but shall be placed prior to scarification.

**(2) TOPSOIL.** When required, topsoil shall be placed over prepared areas and compacted with a roller weighing not more than 120 pounds per foot of roller width. The finished surface shall be smooth, even, and true to line, grade, and cross section specified. Topsoil depth shall be as specified after compaction.

**(3) SOD SAMPLE.** Prior to delivery of sod to the project site a sample of 3 strips of sod representative of the sod to be used for the project shall be furnished by the Contractor for approval.

**(4) PLACING SOD.** Sod shall be mowed in the field to a height of not more than 3 inches within 5 days prior to lifting. All sod shall be in place within 36 hours after lifting from the source. Sod shall be placed in successive strips neatly matched with staggered joints tightly butted.

Gaps or openings which occur at paved or wall areas shall be plugged tight with sod. Sod which is small, irregular, broken, torn or has lost any soil will be rejected. After placing sod it shall be watered thoroughly and rolled with approved equipment.

On slope areas, sod shall be placed parallel to the contour, starting at the bottom of the slope. On slopes 3 to 1 and steeper, each strip of sod shall be pegged with at least two 1/2 by 1/2 by 12 inch stakes placed 2 feet apart and driven flush with the top of the grass.

**(5) SOD ESTABLISHMENT PERIOD.** The Contractor shall protect and care for sodded areas for at least 6 weeks after sod is in place or until the end of the contract, whichever is the longer period.

The sod shall be watered as needed and mowed whenever height of grass reaches 6 inches to maintain a height of 4 inches. The Contractor shall replace or repair dried out or damaged sod at his own expense.

#### **(D) MEASURE AND PAYMENT.**

The unit of measure for Sod and Sodding with 3 Inch Topsoil will be the square yard, with measure taken for actual surface area sodded.

Payment will be made at the contract unit price per square yard, which payment will include furnishing all labor, materials, equipment, tools and incidentals necessary to complete the work.

#### **610.06 WILDFLOWER SEEDING**

**(A) DESCRIPTION.** Work consists of preparing seed bed, furnishing and placing wildflower and companion grass seed, herbicide and mulch or hydromulch, including maintenance until stands of wildflowers are established, disposal of excess and unsuitable materials, and all necessary operations incidental to obtaining acceptable stands of wildflowers in areas where shown on the plans and as directed by the Engineer, in accordance with these specifications.

The Contractor shall perform all herbicide placement and all seeding, scarifying and mulching operations only at times when local weather and other conditions affecting such work are normal and favorable to the proper prosecution of the work. No work shall be done when the temperature is 32°F or lower. Seeding shall not be done during windy weather, nor when the ground is excessively wet, frozen or otherwise untillable.

#### **(B) MATERIALS.**

**(1) WILDFLOWER SEED.** The wildflower seed mixture shall be approved for use in the Washington, D.C. area and shall contain at least 15 to 20 different species. The mixture shall be approximately 50 percent perennials, 20 percent biennials and 30 percent annuals. The purity of species shall be 95 percent minimum. Seed germination shall range from 60 to 90 percent.

**(2) HERBICIDE.** Liquid herbicide shall be low residual, non-selective, post-emergent, systemic and shall contain glyphosate-Herbicide and shall be registered and approved by the United States Environmental Protection Agency. Herbicide shall be approved for type and rate of application as specified in 611.02(B)(16).

**(3) MULCH.** Material for mulch shall be as specified in 822.04(A).

**(4) HYDROMULCH.** Material for hydromulch shall be as specified in 822.04(B).

**(5) COMPANION GRASS SEED.** Grass seed for stabilizing soil prior to germination of wildflower seeds shall be either Chewings Fescue (*Festuca rubra commutate*) or Sheep Fescue (*Festuca ovina*). Grass seed shall meet standards for germination in state where seed is purchased, shall have high purity of not less than 95 percent, and shall contain no noxious weed seeds. No bluegrass, annual rye, tall fescue, orchard grass or timothy seeds shall be used.

#### **(C) CONSTRUCTION REQUIREMENTS**

**(1) BED PREPARATION.** All existing grass, weeds, vegetation, stones and debris shall be removed from the areas to be seeded. Prior to seeding and mulching, the soil shall be hand-raked or mechanically scarified to a maximum depth of 3 inches by power rake, tine-harrow, verti-cutter or rotary tiller set on highest setting.

Two to four weeks prior to sowing seed, the Contractor shall spray a contact herbicide over the scarified seeding area. Precautions in applying herbicide shall be followed in accordance with the manufacturer's instructions and information, and in accordance with 611.02(B)(16).

**(2) SEED APPLICATION.** Seeding in the Spring, before periods of anticipated rainfall, is the best recommended time for wildflower seeding. In medians and in small areas, seeding shall be applied by hand, or by a drop or cyclone spreader set to dispense seed at the rate of 7 pounds per acre, or 1/4 pound per 1,000 square feet. After seeding, soil shall be firmed with a light-weight roller, cultipacker, or other mechanical means to insure contact between seed and soil. No fertilization of wildflower areas will be required.

Companion grass seed shall be sown separately after the wildflower seeds have been sown. Grass seed shall be planted at the rate of 10 to 15 pounds per acre, or 1/4 pound per 1,000 square feet.

The seed bed shall then be covered with mulch to a 1/4-inch thickness, or two to three times the depth of the seed. For areas one acre or larger, a mechanical seed drill may be used to sow the seeds 1/8 to 1/4 inch deep.

On steep slopes and embankments, the hydroseeding method may be used. The slurry mix of wildflower seed and water shall be applied at the rate of 7 pounds per acre, or 1/4 pound per 1,000 square feet. Wildflower or grass seed should not be immersed in water until immediately before application.

Hydromulching shall be applied separately, after the hydroseeding operations are completed, at the rate of 1,200 pounds per acre, or 27-1/2 pounds per 1,000 square feet. The hydromulch shall be applied in two separate passes, or applications. Only 5 to 10 percent of the quantity of hydromulch shall be applied during the first application, so that the wildflower and grass seed will not hang up in the mulch. A second pass, using the remainder of the hydromulch, will then be applied over the first application.

After the seeding and mulching operation are completed, daily watering shall be performed for a period of 4 to 6 weeks during the growing season, after which the watering shall be gradually reduced.

After the wildflower areas have become established and after the flowers have set seed, the Contractor shall mow the planted area at least once during the following late Fall or early Winter to remove old inflorescence to insure seed head propagation. The mower height shall be set between 4 and 6 inches.

If the wildflowers have not filled in the planting area completely by the end of the first growing season, the bare areas will be reseeded by the Contractor in the Fall, as directed by the Engineer and at no additional cost to the District.

**(D) MEASURE AND PAYMENT.** The unit of measure for Wildflower Seeding will be the square yard.

Payment will be made at the contract unit price per square yard, complete in place, and will include an acceptable stand of wildflowers and companion grass (at least 60 percent germination) and all labor including scarifying and mowing, materials including seed, mulch and herbicide, tools, equipment and incidentals necessary to complete the work.